

# Fall 2000 Joint Meeting of the Scientific Steering and Evaluation Panels for the Dynamics of Earth's Interior and Earth's Environment

November 7-9, 2000, King Kamehameha Hotel, Kona, Hawaii

## Tuesday Morning, November 7, 2000

### I. Introductory Remarks

ESSEP Chair Neil Lundberg and ISSEP Chair Julie Morris opened the Eighth Joint Meeting of the Scientific Steering and Evaluation Panel. After introduction of panel members, liaisons, and guests, the meeting host, Mike Mottl of the University of Hawaii, offered some information on local logistics of the meeting. The panels thanked the meeting host for organizing an outstanding field trip focused on the volcanology of the Big Island. They also expressed their deep appreciation to Scott Rowland, also from the University of Hawaii, who led the trip, which included a hike into the caldera and to localities on the south coast where skylights in the lava tubes provided direct views of flowing lava. The panels are grateful to Mike Mottl and Bridget Chisholm, of the JOI office, for the outstanding arrangements for the meeting.

### II. JOIDES Office report: Bill Hay

A. Bill reported on the August 2000 SCICOM/OPCOM meeting, where 30 proposals were evaluated and ranked. OPCOM reviewed and revised the existing schedule from Leg 200 on, and scheduled new legs as indicated in the schedule below, which is subject to EXCOM approval at their January 2001 meeting.

Schedule:

193: Manus Basin	9 November - 6 January 2001
194: Marion Plateau	6 January - 4 March
195: Mariana/W. Pacific Ion	4 March - 2 May
196: Nankai II	2 May-1 July
197: N. Pacific Hotspots	1 July-27 August
198: Shatsky Rise	27 August-23 October
199: Pacific Paleogene	23 October- 16 December
200: H2O Site	16 December -6 February 2002
201: Peru Biosphere	6 February-7 April
202: SE Pacific Paleooceanography	7 April-6 June
203: Costa Rica Margin	6 June-5 August
204: Oregon Gas Hydrates	5 August -3 October
205: Eq. Pacific ION Site	3 October -8 November

Bill noted several main points in this changed schedule:

- a. The Gas Hydrate weather window in the previous schedule was poor, so the Leg was rescheduled to 2002 to optimize weather window, transit time etc
- b. Leg 199 (Paleogene Equatorial Paleooceanography) drilling may be extended if Leg 200 (H2O Site) drilling takes less time than expected
- c. Legs 199 and 201 have some similar sites, and some combination of sites may be possible

- d. The last currently scheduled leg (205) ends 9 November 2002.
- e. The schedule was deliberately crafted to position the ship near the Panama Canal to minimize transit time and optimize fuel usage for transit to the Atlantic in 2002.
- f. The highest ranked proposal (Arctic) is not drillable in the current program. The Arctic PPG expects to have a preliminary report end by the end of this month, with a final report in January. SCICOM is currently establishing a DPG for Lomonosov Ridge drilling. Due to the difficult conditions, GEOMAR's estimate for costs per sample recovered lies somewhere between that of moon rocks and 504B. SCICOM is looking for nominations to the DPG, particularly people with expertise in polar expeditions and ice drilling. The Office of Polar Programs is also providing expertise.
- g. Changes were made to the Nankai II Leg: First will be a LWD mini-leg, ca. 3 weeks. Then corking of near trench sites; upslope sites in out-of sequence thrusts are now not considered candidates for corking, so back to original plan.
- h. Budget: fuel costs have not returned to expected, historically average, lower values, so some changes in schedule must be considered to offset increased fuel costs.

B. Bill showed an overhead with the complete list of proposals considered in August, with dispositions for each proposal. Proposals could be forwarded to OPCOM for scheduling, retained for consideration at SCICOM in August 2001, forwarded to IODP for consideration during the next phase of drilling, or deactivated.

C. Interim science committees: Bill led a discussion of the role of the science panels during the transition to IODP. Bill notes that they will be similar to the current panels, with their mandates now being written up at IPSC. The interim SSEPs (iSSEPs) panels will review and nurture proposals, but will not group them. The interim SCICOM will not rank or schedule legs. The expectation is that the fall iSSEP meeting will be back to back with OD21 meeting, with many of same people serving on both panels. The final IODP advisory structure may differ somewhat from the interim structure, and will depend on participation by member countries. IPSC will focus on specifics in their January, 2001 meeting.

D. There were several questions for Bill.

Julie Morris asked about the recent history of ODP's efforts to facilitate interaction with industry, as background to a preproposal for JOIDES/Industry drilling in the Gulf of Mexico. Bill noted that a JOI/USSAC sponsored workshop held in Houston in 1999 emphasized the importance of such cooperation and noted possible areas of interest. The specific preproposal resulted from a subsequent SEPM meeting. As currently written, the preproposal is based on the assumption that 2 riser ships would participate in the next phase of drilling, which is not the case. Bill emphasized the point that any cooperative venture must be on the basis of scientific interest to be of value to JOIDES.

Keir Becker asked how SCICOM decided which proposals were to be deactivated, and which forwarded to IODP. Bill answered that proposals were deactivated when there was no proponent response to prior SCICOM request for revisions.

The issue of the quality of figures in proposals sent for external review was raised, as some proposals seen by the panels had some illegible figures. The JOIDES office could burn CD-ROMs for each reviewer, including figures, which would minimize degradation of figure quality due to multiple Xeroxing. It isn't possible to allow reviewers to access proposals on the JOIDES web site because reviewers are required to be anonymous to the JOIDES advisory structure; reviewer log on to the website would violate confidentiality. Warner noted that some proposals have poor quality figures in their original .pdf files. The panels will pay attention to the issue of figure quality during their deliberations and note which proposals need improved quality before external review, and request the JOIDES office to work with proponents to deliver improved figures where necessary.

### **III. Incoming SCICOM Chair, Keir Becker**

A. Keir Becker of the Rosenstiel School of Marine and Atmospheric Science, incoming head of the JOIDES office and chair of SCICOM/OPCOM, reported on the new JOIDES office. Keir noted that the new office begins to operate as of Jan 1, 2001, with the transition effort started with his trip to GEOMAR in September 2000. The JOIDES office personnel are Keir Becker, Chris Harrison (EXCOM), Elspeth Urquhart as international liaison, and a science coordinator to be named this month.

Keir noted that after the November SSEPs meeting, proposal files and database will be shipped from GEOMAR to RSMAS, and that the website will be copied to RSMAS for modification, with the website to commence 1/1/01.

Keir provided the attendees with contact information as of January 1, 2001:

Phone: 1 (305) 361-4668

FAX: 1 (305) 361-4632

E-Mail: [joides@rsmas.miami.edu](mailto:joides@rsmas.miami.edu)

Web Site: <http://joides@rsmas.miami.edu>

B. Keir also discussed the JOIDES transition to the interim structure. He noted that the final scheduling of ODP drilling legs will occur at SCICOM's Aug 2001 meeting. SCICOM recommended that the JOIDES panels continue through September 2003. As the time required by the advisory structure for tasks related to proposal scheduling decreases, SCICOM recommends that more time be invested in documenting and evaluating the ODP legacy, especially by SCICOM and the SSEPs. The SCICOM legacy document would further thematic evaluations of drilling related science. Keir finished by noting that the interim Science Advisory Structure (iSAS) would phase in during 2001, and requested nominations for iSSEPs staffing.

### **IV. SCICOM Liaisons Report**

SCICOM liaisons Nils Holm (ESSEP) and Sherman Bloomer (ISSEP) discussed issues from the August 2000 SCICOM meeting that affect the SSEPs.

A. Sherm presented a complete list of proposals considered at SCICOM, showing the actions taken in the case of each proposal. He and Nils further discussed the criteria by which proposals were scheduled, selected for carryover to the August 2001 SCICOM meeting or referred to IODP. The proposal ranking guidelines emphasize the importance of ranking proposals on scientific criteria. In practice, rankings are primarily scientific,

although proposal maturity, site survey completeness, proposed locations relative to the ships track and the extreme competition near the end of this phase of drilling all play into the way SCICOM members rank proposals. Twelve proposals were forwarded to OPCOM for possible scheduling, and the question was asked how these twelve were separated from the other proposals. There was a break in mean score that separated the top 12 from the rest; this combined with a need to be realistic in considering the few slots to schedule dictated the number forwarded to OPCOM. Ten proposals were carried over to the August 2001 SCICOM meeting, with the remainder forwarded to IODP. Most proposals forwarded to IODP were either outside the area of ships operation or needed additional information or site survey work to be considered for drilling. A general difficulty in adhering to strict scientific ranking at SCICOM is that some scientifically important proposals are clearly out of the area of operation or not ready to drill, and may therefore be ranked lower than their scientific merits dictate. This in turn may affect proponents' ability to fund site survey cruises, etc. Bill Hay made the suggestion for SCICOM in the future that all proposals first be ranked strictly on scientific merit, then proposals that are in the area of ship's operation be re-ranked for scheduling purposes.

B. SCICOM Motions. Nils and Sherm discussed the following SCICOM motions and their impact on the SSEPs:

00-2-5: Established the Arctic DPG for Lomonosov Ridge

00-2-6: Clarified guidelines for Ancillary Program Letters (APL) to be < 2-3 days dedicated ship time in the area of drilling of the scheduled Leg.

00-2-13: Approved plan for TEDCOM to work with SciMP and TAMU to provide 1 page tool summaries for each tool in use, as part of the ODP legacy activities.

00-2-14: Established plan and timeline for ODP Legacy document.

00-2-15: Recommended that the JOIDES SSEPs be extant through 9/03, with extensive overlap with iSSEPs.

There was discussion of the planned legacy document, and concern that it might repeat much of what is in the ODP Greatest Hits Volume, or is already discussed at some length in the Initial Science Plan for IODP. The planned legacy document would be intended for a general audience and for funding agencies, as well as members of the drilling community. The format will be invited contributions, ca. 2600 words and four figures each, thematically focused on important areas of ODP science. The deadline for article submittal will be June 2001, because funding agencies will need them by then. The articles will also be published in the JOIDES journal, which has a circulation of ca. 8000. Editors for the volume will be Larry Peterson, Catherine Mevel, John Tarduno, and Harry Elderfield.

There was also general discussion at SCICOM, but no motion, regarding deep drilling during IODP with the JR successor. It is regarded as an important capability for the non-riser ship, and one that is unlikely to be tested before 2003, despite the fact that several deep hole proposals were submitted in response to a request for proposals for deep drilling.

## **V. JOI Report: Neil Lundberg reporting for John Farrell and Frank Rack**

Using materials provided by Frank and John, Neil provided a brief overview of the current ODP advisory structure, and the position of the SSEPs therein.

A. Neil then reported on recent personnel changes at JOI:

The JOI Board of Governors has appointed a Management Oversight Committee (MOC) to oversee the Ocean Drilling Program. The MOC is chaired by Robert Detrick (WHOI). The other members are Jim Gill (UC Santa Cruz), Dennis Kent (Rutger's University) and Neil Opdyke (U. of Florida).

Admiral Watkins, President of JOI/CORE retired effective October 1, 2000. A corporate split between JOI and CORE was implemented and Dr. John Orcutt was designated as Interim President of JOI

Dr. Steve Bohlen, from the U.S. Geological Survey, has been named President/Executive Director of JOI, effective 11/27/00.

B. Neil then discussed Long Range Plan Initiatives that include:

Deep Biosphere Program Planning Group and lab upgrades; Gas Hydrates Program Planning Group and Tool Development and Alternate Platforms Program Planning Group, shallow water continental margin drilling, coral reef drilling and arctic drilling.

C. Neil announced an ODP Town meeting to be held during AGU in San Francisco, December 2000.

D. Neil closed by showing IPSC/IODP Web Site addresses. Input to the Initial Science Plan for IODP and the Conceptual Design Committee for a post-2003 non riser ship, was requested from attendees before mid November, 2000. This is helpful feedback to IPSC for their Nov. 20-29, 2000 meeting, which will in turn provide documents to the International Working Group (IWG) for their meeting in January 2001.

## **VI. NSF Report, Julie Morris reporting for J. Paul Dauphin and Bruce Malfait**

A. NSF has been extremely busy in implementing changes and agreements necessary to bring about IODP. Julie reported the following, provided by Dauphin and Malfait, and excerpted from an article by Paul Dauphin in the fall USSAC newsletter:

- \* The director of NSF and the Japanese minister of STA issued a joint public statement indicating strong support for a next phase of scientific ocean drilling

- \* IODP will commence Oct 1, 2003 with non-riser ship operations scheduled to start in FY 2005 and for the riser-capable ship in FY 2006

- \* During the interval from 1 Oct 2003- 1 Oct. 2004, NSF will support conversion of a non-riser vessel to CDC specifications, site surveys, and program planning

- \*The riser vessel is under construction in Japan, and the final budget allocation from the Japanese government is expected in 2001

- \* NSF will present the U.S. plan for IODP to the National Science Board, Fall 2001

- \*USSAC (U.S. Science Advisory Committee) is currently preparing a U.S. companion to the Initial Science Plan for presentation to the NSB, and is also examining and recommending to NSF optimal models for support of US scientists in IODP

- \*NSF/Ocean Sciences (OCE) Personnel has undergone some changes with Mike Purdy, OCE Division Director, leaving NSF to become Director at Lamont Doherty Earth Observatory. A search for a permanent replacement is underway; D. Heinrichs is the Acting Division Director. The head of the Ocean Sciences Research Section, Mike Reeve, has moved to Centers & Facilities.

B. Paul Dauphin reported via Julie on the status of productive negotiations with the Japanese government leading to a formal understanding of some guiding principles for IODP:

\*IODP will be a scientific research program based on international cooperation

\* The core of the IODP program is a riser-capable and a non-riser ship with a single science advisory structure. Additional drilling capability may sometimes be required

\*Legal & financial platform responsibilities (including mobilization & operation) will reside with Japan for the riser-capable ship and with the USA for the non-riser ship. For additional platforms, the sponsoring organization will assume legal and financial responsibilities.

\*Financial contributions for international partners will be co-mingled to support science operations (including those resulting from alternative platforms).

\* IODP membership is currently open, and will require a 10 yr Memorandum of Understanding. The specific financial contribution required for "a participation unit" in the program is not yet finalized. Contribution of an alternative platform will not be accepted in lieu of annual IODP membership contribution.

\* STA & NSF will contribute equally to the total program costs & will acquire additional units if necessary to fully support the program

\*An Interim Science Advisory Structure (iSAS) to operate from June 1, 2001 to Oct 1, 2003.

C. For 2001, NSF/ODP has tentatively committed to support of the following site survey and pre-cruise proposals:

1. An MCS and OBS study of rifting processes in the Gulf of Aden under the direction of Neil Driscoll (Woods Hole), John Diebold (Lamont) and Brian Taylor (Hawaii).
2. An MCS study of megamullions on the Mid Atlantic Ridge by Brian Tucholke (Woods Hole).
3. A heat flow study of the eastern Cocos plate under the direction of Andy Fisher of the University of California at Santa Cruz.
4. A study of the geochemistry and structure of serpentinite diapirs in the Marianas forearc under the direction of Patty Fryer of the University of Hawaii.
5. A seismic study of gas hydrates on the Oregon margin by Ingo Pecher (University of Texas)
6. Construction and installation of instrumentation in the corals to be deployed at Nankai under the direction of Keir Becker, University of Miami.

Additional proposals are still being evaluated in light of budget constraints and review comments. Beyond 2001, NSF funding will begin to focus on research and data acquisition required for preparation of drilling proposals in IODP.

## **VII. Logging Report, Ulysses Ninneman, ESSEP Logging Liaison**

Ulysses reported on two new tools that could provide much needed capacity for improved core-log integration.

The Multi-Sensor gamma-ray tool is particularly useful where depth correlation between core and log or between multiple adjacent cores is critical. A test of this tool in Houston in June 2000 shows that the new tool has much better resolution than currently possible (3-4x existing tool; ca 10 cm). Tests on Hole 1179D using both conventional and the multi-sensor tool showed that the amplitude and position of peaks are much better resolved with the multi-sensor. This resolution provides improved capability for core-log correlation, but noise in the multi-sensor track (MST) makes this difficult. SciMP is planning to upgrade the shipboard MST sensors to provide a record complementary to the new multi-sensor gamma-ray tool. The new tool fits on a standard Schlumberger wireline tool string and requires 1 extra pass, about one hour of additional time. Ulysses also discussed magnetic susceptibility measurements as another critical tool for core-log integration. There are many on-market tools that could reasonably be adapted for ODP, and the logging group is exploring these options.

### **VIII. PPG Reports**

#### **A. Hydrology PPG, Barbara Bekins, ESSEP liaison to the Hydrogeology PPG**

Barbara reported on the 2<sup>nd</sup> meeting of the PPG, held Sept. 24-25, 2000 in Paris, France. Much of the focus of this meeting was on the technology available for measuring state of stress and determining fluid flow. Presentations were made by Warner Brueckmann on site survey techniques, by Dave Goldberg discussing logging approaches, and by Kevin Brown, liaison from the Seismogenic Zone DPG. Detailed minutes of this meeting may be found on the JOIDES web site.

The PPG members discussed a draft report covering: 1) the importance of fluid flow; 2) driving forces for flow and 3) tests and technology.

They also planned for a second draft that would:

1. Identify five settings where fluid flow is a key process, and prepare case studies outlining conceptual models, study approach, types of measurement possible for each of the following settings. Names indicate PPG members with primary responsibility for each section.

- a) active margins including accretionary prisms and the seismogenic zone, Tokunaga & Henry
- b) mid-ocean ridges, Davis
- c) carbonate platforms, Whittaker & Swart
- d) coastal zones, Kooi & Voss
- e) subsurface biosphere and gas hydrates, Bekins and Brown.

And

2. Develop the following recommendations for the drilling program:

- a) undertake routine measurement of hydrogeologic parameters;
- b) staff hydrologists on relevant legs
- c) encourage legs dedicated to fluid flow
- d) support fluid flow analyses and modeling with a special pool of funds, with awards to be recommended by a panel of hydrogeologists and the MG & G community
- e) sponsor a workshop identifying key questions, to expand participation beyond current members of the PPG to a broader group of scientists and expand funding for hydrogeology studies beyond the now typical industry sources and applied programs.

The third and final meeting of the PPG is proposed to be in Miami, Feb 25-26, 2001, with Peter Swart as host. The emphasis for this meeting will be on technical aspects of hydrogeologic studies using the riser and non-riser ship.

Barbara noted that the SSEPs are not likely to see a proposal emerging from the PPG as a group. There is now, however, the Dogger bank pre-proposal in the system and a carbonate banks proposal is likely to be forthcoming. Other communities, such as those involved in studies of the seismogenic zone and gas hydrates, are already active.

Keir Becker noted that the PPG's time line in its mandate from SCICOM required a final report by March 2001, which could be presented to SCICOM at its March 2001 meeting in Shanghai. Barbara noted that the PPG should have a draft report available by March, but probably not the final version. Barbara made the point that a better product would emerge from the PPG if the deadline for a final report were somewhat later, allowing PPG members to thoughtfully incorporate results from the third meeting. The SSEPS could look at an electronic draft version in March 2001. SCICOM must approve an extension of the deadline for the PPG and a third meeting. At the end of this meeting, the SSEPs will discuss a resolution recommending extension of the Hydrogeology PPG.

**B. Arctic Climate PPG.** Hans Brumsack, ESSEP Liaison to the Arctic Climate PPG  
The Arctic Climate PPG held its second meeting, June 26-27, 2000 at the Geological Survey of Canada in Calgary, Canada. Detailed minutes of the PPG meeting may be found on the JOIDES website. The PPG conducted a status review of the Lomonosov Ridge Drilling Proposal 533, which was very highly ranked by SCICOM. The review concluded that successful drilling in the high Arctic Ocean requires a drilling platform and two support icebreakers.

Future actions for year 2000 include:

- Attempt to acquire funding for seismic cross lines at proposed drilling locations in response to request from the SSP.
- Establish a time frame for the remaining schedule if Proposal 533 were to be scheduled for drilling by SCICOM. The optimal window would be July-Sept. 2003.
- Schedule proponent group to meet at Lamont for an update of the site survey package.

Year 2001

- Lomonosov Ridge expedition planned by the Swedish Polar Research Secretariat—5 days for seismic reflection program provided that funds to cover shiprate are obtained

PPG Discussion of Lomonosov Ridge drilling include the following:

- \* The need for seismic cross lines, and how to fund them. Members noted that site survey data are very expensive in the Arctic.
- \* BSR & hydrocarbon consideration; there is no indications so far of serious safety issues.
- \* Core analyses recommended on the drilling barge: hydrocarbon monitoring, micropaleontology, and multisensor track (MST). Desirable are labs for ephemeral properties such as pore water chemistry and microbiology.

- \* Timing: up to 2yrs advance planning would be required for the drilling leg
- \* Contingency Planning: back-up sites are required for flexibility

Hans reported that PPG members also discussed a wide range of broader scientific objectives for Arctic drilling. These included the vital role of the Arctic in Cenozoic climate change; the record of Mesozoic global anoxic events in the Arctic; the tectonics of Arctic ridges and plateaus, and the tectonics of Arctic gateways; hydrates, fluids and microbiology of the Arctic and the prospect of generating a greatly needed new chart of the Arctic. Hans noted that there should be no difficulty in generating exciting new proposals for Arctic drilling, but the community is waiting to see the fate of Proposal 533 before undertaking major new efforts in proposal development.

The PPG also reviewed the technological demands of Arctic drilling systems. They note that successful drilling would require a vessel of Polar Class 4 (PC4) or better. The existing fleet that meets these standards includes: 25 Russian, 6 Swedish, 10 Canadian, 2 US and 2 Finnish vessels. The most powerful vessel for these conditions is Polar Class 6, Russian nuclear-powered vessels are best for the distance ice management required. The PPG developed two possible drilling scenarios and their requirements for drilling 500 mbsf in 2000m water depth in the Arctic.

#### Scenario 1:

- Drilling rig aboard an Ice Class Barge (e.g. the Sea Sorceress, with dynamic positioning from azimuthal thrusting)
- 2 dedicated ice management vessels; one should be a Russian nuclear icebreaker.
- Tow the barge to site and keep in place by anchors or vessel
- Use continuous ice management and early warning systems for oncoming heavy ice conditions.

#### Scenario 2:

- Mount drilling rig on the after deck of an icebreaker
- 2 dedicated ice management vessels.

A problem might be fuel capacity—a large Ice Class Barge may be needed to provide fuel.

The PPG made a series of conclusions and recommendations regarding the Lomonosov Ridge proposals:

Scenario 1 is the most suitable using the Sea Sorceress

A commercially available drill rig system appear to be viable

Detailed long term planning needs to begin ASAP, with representation from the proponent group

Total cost: estimates vary from 1-2x the cost of standard ODP legs.

With respect to the general requirements for Arctic Drilling, the PPG noted that jurisdiction is multinational as only a small central portion of the Arctic is International waters. Environmental aspects will require cooperation with international agencies, several national governments and various NGOs. The PPG advise that ODP strongly

emphasize the minimal environmental impact of shallow penetration scientific drilling, in comparison to oil and gas drilling.

The next and final meeting is requested for Stockholm, Jan 20-30, 2001. Jan Backman will be the host. The PPG will be finalizing their report for the March 2001 SCICOM meeting.

Mitch Lyle, SSP liaison to ESSEP, commented that site survey work costing ca. \$100,000 is small for \$15M program and so funding should not be an issue. Seismic work can be an added on to the Swedish cruise scheduled in 18 months.

Mitch also noted that SSP has 3 seismic lines in the repository. Much other data is noted as available but is not in repository. Because SSP doesn't yet have a complete package, they cannot determine whether the Lomonosov Ridge Proposal is ready to drill from a SSP perspective.

Michael Enachescu, SSP liaison to ISSEP, noted that Husky Oil has been drilling in the Arctic for 30 years and that well costs are typically double the estimates. He notes that Arctic Drilling management will require accurate knowledge of financial and technological (e.g. barges, icebreakers, etc) commitment well ahead.

A general discussion followed regarding European plans for ice drilling. Bill Hay noted that a meeting will be held in January, 2001 in Belgium to discuss the possibility of Arctic drilling during the interval between ODP and IODP drilling. The critical need would be to convince funding agencies to support such drilling. NSF funding during the interval is committed to converting and outfitting a non-riser ship, while STA funds are committed to the riser ship. European funding is not committed to other activities, but much remains to be worked out.

Michael Enachescu commented that the program should negotiate turn-key operation with a fixed cost for the total program, rather than agreeing on a day rate. Jurgen Thurow commented that the costs will be critically dependent on fuel costs (half of total). Ice barge availability was previously relatively easy and inexpensive cheap, but they are now more in demand from the oil industry.

### C. Arctic DPG

At its August 2000 meeting, SCICOM approved an Arctic DPG for Lomonosov Ridge Scientific Drilling. Hans presented to the SSEPs the overall goals, mandate and timeline for the DPG, which is available on the JOIDES web site. The DPG is still being staffed and nominations from the SSEPs are welcome. Hans noted that many Arctic PPG members and guests represent a lot of capability that should be incorporated in the DPG.

## **IX. ODP-TAMU Report, Part I: Engineering and Operations, Carlota Escutia & Gary Acton**

Carlota reported that seismometer installation on Leg 191 (W. Pacific Ion/Hammer Drill Engineering) went very well. The seismometer was installed in basaltic basement beneath 570 m of sediment cover in water 5777 m deep. This site is not in the vicinity of a submarine cable, so ROV data retrieval will be required yearly. A Japanese cruise is already scheduled. Hammer Drill testing on Leg 191 was limited to 2 days because of

weather problems. They performed a spud-in test in basalt in the Mariana back arc with OPS in volcanic lava flows ranging from 2.7-9 m/hr. Supplemental bracing of the JR standpipe during the dry-dock has apparently resolved the harmonic vibrations experience previously. They did not test drill-in casing due to time limitations, and may test it on Leg 193.

Carlota also discussed the status of microbiology studies in recent ODP legs. She noted that Legs 185, 187, 190, and 191 all have a significant microbiology component. Carlota discussed the two tests used to quantify drilling induced contamination of ODP cores. Tracers used are perfluorocarbon chemical tracers and fluorescent microspheres as particulate tracers introduced when drilling soft sediment, sedimentary rock and basalt. Perfluorocarbon experiments show that drilling fluid intrusion is ca. nanoliters per gram of cored material, corresponding to 1-10 bacteria per gram. Microspheres were never detected in the interior of material cored by APC, XCB, or RCB. The tracer experiments indicated that cores recovered on the JR can be suited for deep biosphere research. Leg 185 personnel noted that post-recovery sample handling can be a source of contamination, and developed a sampling protocol. ODP Technical Note 28, "Methods for Quantifying Microbial Contamination during Deep Ocean Coring" is available on the ODP web site under Publications.

Carlota presented the present status of microbiology, with a series of recommendations for incorporating microbiology as a standard part of most drilling legs. She noted the needs to develop a basic program which can be routinely done as part of multidisciplinary ODP leg, develop a list of routine microbiological supplies to be stocked, hire two technicians with microbiology background (who will be cross-trained for the chemistry lab), develop sample protocol for sampling, define basic sampling tools now provided by participating scientists, develop a cookbook for contamination tests to be routinely conducted by the technical staff, and to continue two-way educational process between ODP and the microbiology community.

Carlota concluded by discussing the status of the Gas Hydrate Autoclave Sampling and Monitoring System (HYACE). A third-party tool, HYACE was originally scheduled to be tested on Leg 191 but was not ready. It's now scheduled to be tested during three days at the beginning of Leg 194. Six HYACE engineers are scheduled to sail on the JR during the tests. Tests will be conducted at Site CS-13 in a Miocene to recent sequence of carbonate reefal debris and peri-platform oozes with continental influx of fine-grained terrigenous material. The test program for deploying the HYACE tools is now being defined, along with details of how to handle the pressure samples recovered.

Gary Acton discussed recent developments for the Advanced Diamond Core Barrel (ADCB), which ODP expects to test on Leg 193 and 194. Two land tests recently completed provided 96 and 86% core recovery. The ADCB has a smaller outside diameter than the RCB, with larger inner diameter, resulting in ca. 2.1 times more core than the RCB. It operates with smaller drill collars than standard (6 3/4" vs. 8 1/4") and so is limited to <200m penetration. The system requires good control of weight on bit, and the new AHC is likely to provide the control needed. The ADCB is not intended for bare rock spud in; rather, the hammer drill or RCB will be necessary to start holes. Gary also noted that A-CORKS are under fabrication for Leg 196. One CORK will include a seismometer, located in the middle. They have developed a new re-entry design, which saves money by removing some unused capability in the standard cone.

Gary noted that its use requires a BHA change, so it may not be time effective for chert-chalk sequences for example.

### Separate ISSEP and ESSEP Meetings to Review Proposals

The SSEP chairs reviewed the conflict of interest rules prior to the start of proposal reviews. Proponents are excluded, as are those having active projects closely related to the projects proposed. For Ancillary Program Letters (APL), nominated co-chiefs must recuse themselves. SSEP members at the same institutions as a proponent must identify themselves to the SSEP chairs prior to review discussions. At this fall meeting, the major job of the SSEPs is to decide which proposals are mature enough for external review before forwarding to SCICOM. We also considered a few externally reviewed proposals.

During the meetings (November 7-10), the SSEPs considered the following proposals:

Prop. No.	Title	Lead Prop.	SSEP
543-Full2	(was 580-Full) CORK Hole 642.E	Harris	E
547-Full3	Oceanic Subsurface Biosphere,	Fisk	Joint
548-Full2	Chicxulub: Drilling the K/T Impct	Morgan	E/I
554-Full4	Gas Hydrates in a Petroleum Basin	Kennicutt	E/I
557-Full2	Storegga Slide Gas Hydrate	Andreassen	E/I
572-Full2	Late Neogene climate, N Atl: distal LISO	Channell	E/I
573-Full2	Modern Carb. Mounds, Porcupine basin	Henriet	E
574-Full	Hydrotherm. proc. & metallogen. in mantle	Fouquet	I/E
575-Full3	African Climate, Gulf of Aden	deMenocal	E/I
581-Add	L Pleistocene Drowned Reefs	Droxler	E
585-Full	Murray Ridge Deep Drilling	Clift	Joint
586-Full	Hawaiian Reefs and Basalts	Rubenstein	Joint
588-Full	N. Atlantic Cretaceous Gateway	Gradstein	E/I
589-Full2	Gulf of Mexico Overpressures	Flemings	E/I
590-Pre	JOIDES-Industry Drilling in GoM	Fillon	E/I
591-Pre	Magmatic-Hydrothermal Systems	Herzig	I/E
592-Pre	Shallow Drilling in Dogger Bank	Andriessen	E/I
593-Pre	Terrestrial/Ocean Interaction, GoM	Flower	E
594-Full	Newfoundland Margin	Tucholke	I/E
APL-13	Re-Drill Hess Rise	Erba	E
APL-16	Mertz Drift	Harris	E
APL-17	Scotian Margin Cenozoic	Piper	E/I
APL-18	Loc. of Grenville Front, N. Atlantic	Scanlon	I
EXTERNALLY Reviewed Proposals			
561-Full2	Caribbean Large Igneous Province	Duncan	I
584-Full	TAG II: Volc.-hosted Hydrotherm	Rona	I\E
Addendum to Proposals at SCICOM			
577-Add2	Paleog. & K Paleoccean., W. Equat. Atl.	Erbacher	E

The panels ended the afternoon session at 1800.

## **Tuesday Evening, November 7**

### **Joint ISSEP-ESSEP Working Groups**

Meeting Tuesday, November 7, 2000, 20:00

King Kamehameha Hotel, meeting rooms

These joint working groups met Tuesday night, after the two panels have separately discussed the proposals of joint interest. The first job of the working group was to ensure that a single coordinated review, representing both panel perspectives, gets written. This means reconciling different viewpoints between the panels, and deciding individual responsibilities for writing and revising the panel comments. Both panels met together Wednesday afternoon to discuss proposals of joint interest.

Note that some working group members may have conflicts of interest with a proposal in their working group. Members discuss jointly all those proposals for which there are no conflicts. After that, they discuss those proposals where there is a conflict, with the conflicted person out of the room.

The themes of the working groups, and their numbers have been changed to reflect the changing nature of incoming proposals.

### **Joint Working Group on Deep Biosphere Zone and Gas Hydrates.**

These two groups met jointly to discuss the microbial aspects of gas hydrate proposals, then separated to discuss proposals, or aspects thereof, that are strictly deep biosphere (DB) or gas hydrates (GH).

Members:

Dave Vanko

Ingo Pecher

Paul Baker

John Hayes, Working Group Leader

Hans Brumsack

New/revised proposals for consideration: 547-Full-3 (DB), 554-Full4 (GH/DB), 557-Full2 (GH/DB), 573-Full2 (DB), 574-Full (DB) and, time permitting, 584-Full (DB)

### **Joint Working Group on Fluids in the Near-surface**

Members:

Mike Bickle (conflict with 584)

Mike Mottl

Harold Tobin

Barbara Bekins, Working Group Leader

Liz Sreaton

New/Revised and Pre-proposals for consideration: 543-Full2, 554-Full4, 584-Full, 589-Full2, 591-Pre

## **Wednesday Morning, November 8, 2000.**

Separate ESSEP and ISSEP meetings to discuss proposals.

## **Wednesday Afternoon, November 8, 2000.**

Joint Meeting of ESSEP and ISSEP

### **I. Discussion of Joint Proposals: Review Working Group Leaders**

After another review of the conflict of interest rules, the following Review Working Groups Leaders provided a brief summary of the groups' discussions and final recommendations regarding the proposals considered:

Fluids in the Near-surface: Barbara Bekins

Gas Hydrates and Deep Biosphere: John Hayes

During this joint session, the panels also discussed other proposals considered by both panels: Proposals 548, 572, 575, 585, 586, 588, 590, and 594.

The panels wrote a single joint review for each of these proposals.

### **II. Transition Planning to IODP, Keir Becker**

Keir led a discussion of the interim science advisory structure, based on IPSC planning, which will be presented to the IWG in January, 2001. The interim SAS will start meeting in mid-2001. The iSSEPs may begin meeting as early as May 2001, but will definitely be sitting by November, 2001. The respective jobs of the current SSEPs and the iSSEPs in handling incoming proposals during the interim were discussed briefly. Keir and Bill noted that a big job for the JOIDES SSEPs will be in working with SCICOM to help document and evaluate the ODP legacy. An issue still to be worked out is where proponents should send proposals during the interim. The JOIDES structure and office will continue until ODP ends, but will not be accepting new pre-proposals and new proposals. Neil distributed to the panel a copy of the iSAS mandates for the SSEPs, so that panel members may comment on the planned role and responsibilities of the iSSEPs.

### **III. Recommendations and New Business, Julie Morris and Neil Lundberg**

The SSEPs offered several resolutions.

#### **A. Hydrogeology PPG**

Given the time required to staff the Hydrogeology PPG, and recognizing the importance of the PPG to IODP drilling, the SSEPs encourage SCICOM to extend the timeline for the PPG long enough to allow thoughtful completion of their final report.

#### **B. Thanks to the GEOMAR JOIDES Office.**

The SSEPs express their deep appreciation to the outgoing JOIDES Office. Bill Hay, Warner Brueckmann, Jeff Schuffert, Bettina Rohr, and Emmanuel Soeding have kept the program afloat as we head to the end of ODP. Their emphasis on highest quality science, successful transition to largely electronic proposal submittal, and their ability to keep up with the heaviest proposal pressure in ODP is greatly appreciated. The SSEPs extend their thanks for all the JOIDES office members have done.

### C. Outgoing ESSEP members

ESSEP deeply appreciates the conscientious and creative input of Barbara Bekins. Her unflagging championing of fluid flow issues has kept us on track, and her appreciation of the broader context has been a model for us all.

ESSEP greatly appreciates the imaginative input of Paul Baker. His expertise in sediment geochemistry has been very helpful, and his consistent offering of alternate opinions has served to broaden scientific discussion and provided fresh insight.

ISSEP agrees!

Other Business

Membership in the Arctic DPG.

SSEP members were asked to provide SCICOM with names of possible candidates for the Arctic DPG. They noted that much of the current PPG staff is appropriate for the DPG.

## **IV. ODP-TAMU REPORT Part II: Leg Summaries, Gary Acton and Carlota Escutia**

Gary Acton updated the panels on the status of cruise-related publications, noting that Initial Reports volumes up to Leg 186 are now available on the web, as are the Scientific Results Volumes, up to Leg 171. New data synthesis and technical notes are available on the web site, along with the ODP citation list. Authors should send citations to their published papers to ODP for inclusion in the citation list. Gary notes that the Web site has been having a major impact, with an 800% increase in hits on the site between October 1997 and projected hits in 2002. This totals over 1.8M pages accessed.

Gary summarized basic results from Leg 189, which are also available on the web site. The drilling recovered 4.5km of sediment core from around Tasmania, with a goal of understanding the rifting of Tasmania and Antarctica and its role in development of the Circum-Antarctic Current. A major finding of the Leg is the observation of visual changes in sediment from glauconitic sandstones to carbonates, marking a change in the current. A lot of post-cruise isotopic work is underway.

Gary also summarized results from Leg 190, Nankai I. The Leg drilled 6 sites along 2 transects across the trench. They cored through the decollement, which is 6-7 my old in both places. Physical properties are an important part of this leg; the preliminary report is on the web site. Leg 196, Nankai II, will build on this leg, adding LWD and A-CORKing to better study the deformation and fluid flow.

Carlota Escutia summarized results from Leg 191, which included ION site seismometer installation at site 1179. The test of the hammer drill was discussed earlier. Shipboard scientists also characterized 377m of sediment and 98 m of basalt at Site 1179. These results add to the database for sedimentology, petrology, and basement chemistry near the Mariana volcanic arc.

Carlota also discussed Leg 192, which focused on the Origin of the Ontong Java Plateau. ODP was unable to obtain clearance to drill at a high priority Solomon island site, did drill 1183-1187. With the leg just concluded, the shipboard party did report some surprising results. At Site 1184, they cored Eocene basaltic ash, not the expected basalt

reflector; the party did not hit basalt at this site. They did recover high MgO basalts (9-10% MgO) in approx. 90 Ma pillow basalts overlying approx. 120 Ma basalts.

Leg 193 is just about to start. Clearance to drill was finally granted by Papua New Guinea. PNG government observers will sail to report to the PNG government on economic minerals and to participate in discussion on microbiological sample requests. The observers will have no ability to determine or modify sample requests. The daily report will go to the PNG Government and Nautilus company 6-12 hrs ahead of general distribution. The leg will involve both drilling and LWD at elevated temperatures. They will test ADCB and Hammer in casing during the leg.

Upcoming cruises:

Marion Plateau Leg 194: This leg will include a distance learning trial. ODP will sail 1 teacher to interact with middle school classes. The teaching component will include science modules on climate change, etc. available on web site.

Leg 195: This leg will combine installation of the Philippine Sea Ion Site with drilling and corking of a site in a serpentine mud volcano in the southern Mariana fore-arc. If time permits, drilling to support the goals of APL 14 to study the Kuroshio current, may be included.

#### **IV. Next meeting:**

The May 2001 meeting will be held at Airlie House, VA, near Dulles Airport and close to Washington DC. Bridget Chisholm of JOI will be organizing the meeting. Best dates for the panels are May 17-19, 2001, immediately before the Goldschmidt Conference in Roanoke, VA.

The joint session was adjourned, and the formal sessions ended Wednesday at about 4pm. Panel members returned to their separate meeting rooms and continued working on proposal reviews. Review writing continued Wednesday evening until about 11pm.

#### **Thursday Morning, November 9, 2001**

Panel members worked on reviews, and provided panel chairs with electronic copies of reviews and lists of possible external reviewers. The reviews will be forwarded to the JOIDES office for transmission to proponents, and the list of external reviewers will be supplied to the JOI office.

#### **Meeting Attendees:**

ISSEP

Dick Arculus

Mike Bickle

Peter Clift

Colin Devey

Donald Fisher

Bernie Housen

Benoit Iledefonse  
Teruaku Ishii  
Julie Morris (Chair)  
Mike Mottl  
Ingo Pecher  
Christopher Small  
Piera Spadea  
Harold Tobin  
David Vanko

ESSEP  
Paul Baker  
Barbara Bekins  
Svante Björck  
Hans Brumsack  
Gilbert Camoin  
Chris Charles  
Steven Clemens  
Craig Fulthorpe  
John Hayes  
David Hodell  
Neil Lundberg (Chair)  
Hiroki Matsuda  
Dick Norris  
Liz Screamon  
Juergen Thurow  
Kuo-Yen Wei

#### Liaisons and Guests

William Hay, JOIDES chair  
Warner Brueckmann, JOIDES  
Jeffrey Schuffert, JOIDES  
Nils Holm, SCICOM liaison to ESSEP  
Sherman Bloomer, SCICOM liaison to ISSEP  
Michael Enachescu, SSP liaison to ISSEP  
Mitch Lyle, SSP liaison to ESSEP  
Gary Acton, TAMU liaison to ISSEP  
Carlota Escutia, TAMU liaison to ESSEP  
Ulysses Ninneman, Logging liaison to ESSEP  
Keir Becker, Incoming JOIDES chair  
Elsbeth Urquart, incoming international liaison to the new JOIDES office

## Attachment:

### A. SSEP Decisions on Proposals Reviewed

Disposition of Proposals, Addenda, Ancillary Program Letters and Externally Reviewed Proposal Nov 7-9, 2000 in Kona, HI

Proposals Deemed Ready for External Review

Prop. No.	Title	Lead Prop.	SSEP	Disposition
543-Full2	(was 580-Full) CORK Hole 642.E	Harris	E	External Review
547-Full3	Oceanic Subsurface Biosphere,	Fisk	Joint	External Review
548-Full2	Chicxulub: Drilling the K/T Impct	Morgan	E/I	External Review
554-Full4	Gas Hydrates in a Petroleum Basin	Kennicutt	E/I	Fast Track, Ext.Review
**Need to ensure that site description forms for all proposed sites are in reviewed copies**				
557-Full2	Storegga Slide Gas Hydrate	Andreassen	E/I	External Review
572-Full2	Late Neogene climate, N Atl: distal LISO	Channell	E/I	External Review
573-Full2	Modern Carb. Mounds, Porcupine basin.	Henriet	E	External Review
575-Full3	African Climate, Gulf of Aden	deMenocal	E/I	External Review
581-Add	L Pleistocene Drowned Reefs	Droxler	E	External Review
**Send Addendum with 581-Full for external review**				
589-Full2	Gulf of Mexico Overpressures	Flemings	E/I	Fast Track,Ext. Rev
**Strongly urge proponents to include seismic line for Ursa site in reviewed copies**				
594-Full	Newfoundland Margin	Tucholke	I/E	External Review

Proposals requiring further revision, and submission to IOPD

574-Full	Hydrotherm. proc. & metallogen. mantle	Fouquet	I/E	Revise
585-Full	Murray Ridge Deep Drilling	Clift	Joint	Revise w/add. data
586-Full	Hawaiian Reefs and Basalts	Rubenstein	Joint	Revise w/add. data
588-Full	N. Atlantic Cretaceous Gateway	Gradstein	E/I	Revise
590-Pre	JOIDES-Industry Drilling in GoM	Fillon	E/I	Revised Pre
591-Pre	Magmatic-Hydrothermal Systems	Herzig	I/E	Full w/add. data
592-Pre	Shallow Drilling in Dogger Bank	Andriessen	E/I	Revised Pre
593-Pre	Terrestrial/Ocean Interaction, GoM	Flower	E	IODP (or APL w/major changes)

APLS

APL-13	Re-Drill Hess Rise	Erba	E	"Moot" Comments
APL-16	Mertz Drift	Harris	E	Positive Comments
APL-17	Scotian Margin Cenozoic	Piper	E/I	Negative Comments
APL-18	Loc. of Grenville Front, N. Atlantic	Scanlon	I	Negative Comments

EXTERNALLY Reviewed Proposals

561-Full2	Caribbean Large Igneous Province	Duncan	I	Group in May
584-Full	TAG II: Volc.-hosted Hydrotherm	Rona	I\E	Group in May

Addendum to Proposal at SCICOM

577-Add2	Paleog. & K Paleocan., W. Equat. Atl.	Erbacher	E	At SCICOM
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